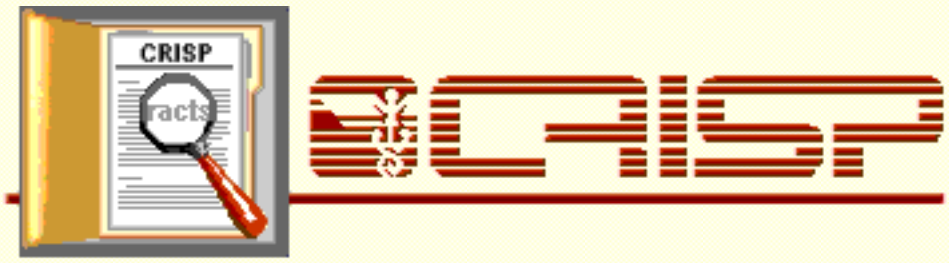
Version 2.0



Abstract

Back to Hit List

Grant Number: 5R29NR004192-05

PI Name: BROOKS-BRUNN, JO A.

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PI Title: ASSOC SCIENTIST, SCH OF NURSING

Project Title: PREDICTORS OF POSTOPERATIVE ATELECTASIS PNEUMONIA

Abstract: *DESCRIPTION: (Adapted from investigator's abstract) Postoperative pulmonary complications (PPCs) are frequent and associated with increased morbidity, mortality, hospital length of stay and resource utilization. Atelectasis and pneumonia account for >80% of reported PPCs. The objective of this study is to develop predictive models for stratifying the risk of clinically significant atelectasis and/or pneumonia using readily accessible or existing clinical data in an adult abdominal and cardiothoracic surgical population. The long term goal is to develop predictive model(s) for use in the clinical setting to guide preoperative and postoperative pulmonary care. The primary aim of this study is to develop, compare and validate models to predict the risk of clinically significant atelectasis and/or pneumonia following abdominal or cardiothoracic procedures by assessing combinations of risk factors available at differing time periods during the surgical episode of care. Secondary aims are to compare the incidence of clinically significant atelectasis and/or pneumonia following abdominal and cardiothoracic procedures and postoperative length of stay between patients who develop these complications and those who do not. Four institutions will be utilized for data collection and the target population is adults who are undergoing elective abdominal or cardiothoracic procedures with general anesthesia. The target sample size is 1500 subjects over a three year period. Multi-criteria definitions will be used to measure the outcomes of clinically significant atelectasis and pneumonia as not to overestimate the incidence. The risk factors of interest are: increased age, impaired preoperative level of cognitive function, history of chronic lung disease, preexisting comorbid diseases, low or high body mass index (BMI), increased preoperative length of stay, smoking history, absence of preoperative respiratory education, high anesthesia physical risk status (ASA), increased*

duration of anesthesia, type and location of surgical procedure, incision direction and length, duration of intubation/mechanical ventilation in the postanesthesia period, pain management, postoperative mobility, administration of H2 blockers/antacids and presence of a nasogastric tube. Data will be collected on each subject prior to surgery and on a daily basis until hospital discharge. Logistic regression analysis will be used to examine the risk factors for univariate effects on clinically significant atelectasis and pneumonia and to develop and compare the multivariate models. Models will be evaluated for utility and goodness-of-fit. A split-sample technique will be used for model validation.

Thesaurus Terms:
atelectasis, disease /disorder proneness /risk, health care model, model design /development, pneumonia, postoperative complication
cardiovascular surgery, gastrointestinal surgery, hospital length of stay, nursing model, thoracic surgery
adult human (19+), behavioral /social science research tag, clinical research, human subject

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